

910  
30. (New) A method as described in claim 28, further comprising the step of updating the second set of paths while updating the first set of paths.

sub D17  
31. (New) A method as described in claim 27, wherein the step of selecting the second set of paths further comprises tracking the first set of paths. --

### **REMARKS**

By this amendment, Applicants amend claims 1-4, 7, 11, 13 and 22, and add new claims 26-31. Accordingly, claims 1-31 are pending for further consideration. Claim 1 has been amended to recite that the second stage is configured to use the first set of more than N paths *and the input signal* to generate a set of N paths. Claim 22 has been amended to recite that the step of selecting a second set of paths *from the first set of paths* based on *a second set of correlation values*. Applicants respectfully traverse the rejections and objections set forth in the November 7, 2001 Office Action. Favorable reconsideration is respectfully requested.

### **The Information Disclosure Statement Filed August 31, 1999**

The Office Action alleges that the Information Disclosure Statement (IDS) filed August 31, 1999 (hereinafter, the IDS), fails to comply with 37 CFR 1.98(a)(2) because document EP 0 858 175 was incorrectly listed on Form PTO-1449 as "EP 0 757 175." Applicants respectfully submit that they have complied with 37 CFR 1.98(a)(2) because document EP 0 858 175 is clearly listed on page 1 of the IDS letter, and, as indicated by the Examiner on page 2 of the Office Action, a copy of this document has been furnished. In addition, the IDS letter also states that each of the listed items were documents cited in a communication from a foreign patent office, and that a search report relating to this application issued by the European Patent Office was also enclosed with the IDS. Clearly, the document listed in the search report, *i.e.*, EP 0 858 175, is the same one listed in the IDS letter. While document EP 0 858 175 was inadvertently incorrectly listed on the Form PTO-1449 submitted with the IDS, Applicants respectfully submit that this should not constitute reason to refuse consideration of information submitted with the IDS. It is respectfully pointed out that 37 CFR §§1.97 and 1.98 do not even require that a Form PTO-1449 be filed in an IDS. Rather, use of Form PTO-1449 is encouraged by the Office merely as a convenient

means for indicating consideration and ensuring full compliance with Rules 1.97 and 1.98 (see MPEP 609). In view of this, Applicants respectfully request that the Examiner consider document EP 0 858 175, indicate this on the Form PTO-1449 by correcting and initialing the listing in the Form PTO-1449, and return a copy of the initialed/corrected Form PTO-1449 with the next communication to the Applicants.

**The Objections to the Drawings, Specification and Claims:**

The drawings were objected to for showing various reference characters not mentioned in the description. In response, Applicants have amended the specification in accordance with these comments. Applicants respectfully submit that the drawings are in compliance with 37 CFR 1.84(p)(5). Accordingly, Applicants request that these objections be withdrawn.

The Office Action also objected to the drawings, presumably Fig. 6, for allegedly not showing a logical connection between step 742 and step 730. In particular, the Office Action alleges that it must be shown that Stage III is instructed to use paths from Stage II until new paths are ready from Stage I when the quality of the output signal is less than an acceptable level as described in page 9, lines 15-21 of the specification. It is not clear what the Office Action requires of Applicants with respect to changes in Fig. 6. Fig. 6 clearly shows in block 740 that if the output signal quality is not greater than the acceptable threshold, then (in process block 742 of the flowchart): "Use Paths from Stage II Until New Paths Are Available." It is respectfully submitted that correction of Fig. 6 is not necessary because the flowchart section of Fig. 6 referred to by the Office Action correctly shows what is described by the portion of the specification cited by the Examiner. Therefore, Applicants respectfully request either further clarification of the required drawing change or that the Examiner withdraw the objection of Fig. 6.

The Office Action, at page 3, objects to claims 1-13, 15, 20 and 21 for minor informalities. In particular, claims 2, 3, and 7 were objected to for various typographical errors present in the claims. The specification was also objected to for typographical errors on pages 2 and 4. By way of this amendment, Applicants have corrected these informalities in the claims and specification in a manner as suggested by the Examiner.

The Office Action also objects to claims 1, 2, and 20 for the use of variables M, N and k without clearly specifying parameters, such as a range, or whether the variables are "integers or whole numbers, etc." It is respectfully submitted that these variables are clear, especially when read in light of the specification. Applicants believe that the breadth and precision used in claiming the invention comply with the requirements of U.S. patent statutes and rules. Moreover, the Office Action does not provide a basis (*e.g.*, in a law or rule) to support a requirement to further define these variables. Accordingly, Applicants request that the Examiner provide such basis or withdraw the objections.

The Office Action objects to Claim 25 under 37 CFR § 1.75(c) as allegedly being of improper dependent form for failing to further limit the subject matter of a previous claim. In particular, the Office Action alleges that the step of updating the second set of paths while updating the first set of paths contradicts the step defined in claim 23 of updating the second set of paths without updating the first set of paths. Applicants respectfully disagree with the Office Action's interpretation of claim 25 and Rule 1.75(c) for the following reasons.

In some exemplary embodiments of the invention, while a RAKE receiver is operating a searcher may occasionally update a set of received "candidate" paths while a selector continues to select or "update" a subset of the candidate paths. Because the searcher occasionally performs an update function, the selector may operate at times while the searcher is either actively updating candidate paths and at other times when not actively updating candidate paths. Thus, at some times during operation when selector updates a subset of the candidate paths, the searcher may be active. At other times during an update operation, the searcher may be inactive. For example, the specification, at page 8, lines 5-16, describes a method for configuring a RAKE receiver that comprises both a step of updating the second set of paths without updating the first set of paths and a step of updating the second set of paths while updating the first set of paths.

In view of this, it is respectfully submitted that the steps defined by claim 25 are not contradictory when claim 25 is properly appreciated as a whole (*i.e.*, the combination of claims 22, 23 and 25). In other words, when the method recited by claim 25 for configuring a RAKE receiver is considered in its entirety, as it must be, the steps defined in claims 23 and 25 are not necessarily drawn to mutually exclusive methods, and thus are not contradictory.

Furthermore, Applicants respectfully submit that the objection of claim 25 under 37 CFR § 1.75(c) is improper because claim 25 further limits the subject matter of claim 23. In particular, claim 25 recites that the method for configuring a RAKE receiver comprises the step of updating the second set of paths while updating the first set of paths. Neither of claims 22 and 23 recite this feature. Accordingly, Applicants respectfully request that the objection to claim 25 be withdrawn.

**The Rejections under 35 U.S.C. § 112, First Paragraph:**

The Office Action rejected claims 5-7 under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

With respect to claim 5, the Office Action alleges:

**“the specification does not recite exactly how the second stage will use the input signal to generate a new set of N paths as the set of N paths was only described to be generated from the set of more than N paths produced by the first stage. Further, if the second stage is using the input signal to generate a new set of N paths, it is unclear how it can still be configured to use the set of more than N paths from stage one to generate the N paths as stated in claim 1. The use of both the input signal and the first set of more than N paths by the second stage to generate N paths and a new set of N paths imply that there are two sets of N paths being generated simultaneously.”**

Amended claim 1 recites that an apparatus for configuring a RAKE receiver includes, *inter alia*, a second stage configured to generate “a set of N paths.” Claim 5 further defines that the receiver is further configured to use an input signal to generate a “new set of N paths.” Contrary to the above-noted allegations, the disclosure describes several exemplary embodiments of the claimed invention. For example, the specification, at page 6, line 18–page 8, line 4, discloses several exemplary embodiments of a second stage that are configured to use an input signal to generate a new set of N paths.

With respect to the alleged failure to recite exactly how the second stage will use the input signal to generate a new set of N paths, Applicants respectfully submit that they are not required to disclose a level of detail, or “exactness,” in the description beyond a level that is needed by one of ordinary skill in the art to practice the invention. For example, one disclosed exemplary embodiment uses an input signal and a bank of correlators to generate a new set of N paths. Applicants respectfully submit that the disclosure is enabling at least

because one of ordinary skill in the art would understand this exemplary embodiment from reading the disclosure, for example, at least the above-referenced portion of the specification.

Furthermore, Applicants do not believe that the above-noted allegations by the Office Action pertaining to clarity are relevant to requirements of enablement under 35 U.S.C. § 112, first paragraph. Applicants nonetheless respectfully submit that claim 5 is clear. Claim 5 recites that the second stage is configured to use the first set of more than N paths. Claim 5 also recites that the second stage is configured to use the input signal to generate a new set of N paths. These aspects of the invention are described throughout the specification.

It has long been held that a claim should not be read in a vacuum and that proper interpretation of a claim requires that it be read in light of the specification. Section 2164.08 of the MPEP states that “when analyzing the enabled scope of the claim, the teachings of the specification must not be ignored because claims are to be given their broadest reasonable interpretation that is consistent with the specification” (emphasis added). It is improper to construe a claim to mean something different from the interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made. Applicants respectfully submit that the Office Action’s interpretation of claim 5 falls into this category. In particular, the allegation that claim 5 implies that there are two sets of N paths being generated simultaneously, as set forth in the Office Action and repeated above, is based on an unreasonable interpretation of the claim, which is an improper basis for determining enablement of the invention. See MPEP § 2164, especially §§ 2164.01(a), 2164.04 and 2164.08.

Dependent claim 6 recites that the second stage is also configured to select the new set of N paths from the first set of more than N paths. Claim 7 recites that the second stage is also configured to derive the new set of N paths from the first set of more than N paths. Applicants respectfully submit that claims 6 and 7 also comply with 35 U.S.C.

§ 112, first paragraph, at least for the reasons given above with respect to claims 1 and 5. Furthermore, mere allegations that claims 6 and 7 “are unclear” do not fulfill the burden the Examiner must bear when showing how a claim fails to comply with the enablement requirement, which is a factual determination based on law. See MPEP §§ 2164, 2164.01(a), 2164.04 and 2164.08.

Based at least on the foregoing reasons, Applicants respectfully submit that the rejections of claims 5, 6 and 7 under 35 U.S.C. § 112, first paragraph, are improper because they rely on a basis of improper claim interpretation and misapplication of the statute. Hence, Applicants request that these rejections be withdrawn. Furthermore, since claims 5-7 are not currently rejected using prior art under Sections 102 or 103, and claims 5-7 are believed to fully comply with the requirements 35 U.S.C. § 112, first and second paragraphs, Applicants respectfully request that the Examiner indicate that these claims are allowable in the next Office communication.

**The Rejections under 35 U.S.C. § 112, Second Paragraph:**

Claims 1-13 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicants have amended claims 1, 4, 11 and 13 in accordance with comments in the Office Action. Applicants respectfully submit that claims 1-13 as amended fully comply with the requirements of 35 U.S.C. § 112, second paragraph. Accordingly, Applicant respectfully requests that the rejections under 35 U.S.C. § 112, second paragraph, be withdrawn.

**The Rejections under 35 U.S.C. § 102(e)**

Claims 1, 2, 11, 12, 14, 15, 19, 22, and 24 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U. S. Patent No. 5,987,016 to *He*. These rejections are traversed for the following reasons.

Independent claim 1 is directed to an apparatus for configuring a RAKE receiver with N fingers that comprises a novel combination of features including a first stage, a second stage and a third stage. Claim 1 further defines that the first stage is configured to use an input signal to find a first set of more than N paths and that the second stage is configured to use the first set of more than N paths *and the input signal* to generate a set of N paths.

The *He* document describes a method for tracking a communication signal in a wireless communication system that comprises a receiver (*i.e.*, item 405 in Fig. 4 of *He*), a searcher (*i.e.*, item 407), a finger manager (*i.e.*, item 409), and at least two RAKE receiver fingers F1 and F2. The Office Action identifies the finger manager of *He* as the claimed second stage (see the Office Action page 6, about the middle of the page). However, in contrast to the claimed invention, *He* discloses that the finger manager only receives correlation energy values at respective pn-offsets from the searcher (along paths 408 of Fig. 4). See column 5, lines 47-57. Also note that in Fig. 4, *He* shows that an input signal (414 from the receiver(s) 405) is connected with fingers F1-F4, but *He* does not show that the input signal is connected with the finger manager. *He* cannot anticipate claim 1 because *He* does not disclose or fairly suggest that the finger manager uses the input signal to generate a set of N paths, as recited in the claim.

Nor would claim 1 be obvious over *He*. The finger manager of *He* is described as receiving calculated and stored values relating to pn-offsets and correlation energies. See *He*, column 5, lines 39-50. There is nothing in *He* suggesting that the finger manager uses an input signal in any way, let alone using an input signal in a way to generate a set of N paths from a set of more than N paths. *He* instead describes using a finger assignment algorithm within a finger manager for receiving calculated pn-offset locations and associated correlation energies to assign RAKE receiver fingers to demodulation locations. See *He*, column 5, lines 47-58. Applicants respectfully submit that the claimed use of an input signal in a second stage is nonobvious over *He* because there is no mention or suggestion in *He* to do so.

Dependent claims 2-13 also are believed patentable over *He* at least for the reasons given above with respect to claim 1, and furthermore for the additional features they recite.

For example, claims 2 and 3 define an apparatus for configuring a RAKE receiver that includes, *inter alia*, correlators to generate a set of N paths, in the case of claim 2, or M estimates, in the case of claim 3.

The Office Action appears to allege that the finger manager of *He* inherently comprises correlators. Specifically, the Office Action alleges:

***“He speaks of the use of correlation energies in the selection of N paths, or subset of candidate paths, from the set of more than N paths, or set of candidate paths, in column 5, lines 39-53. It is inherent that some number of correlators were used to derive these correlation energies and generate the set of N paths, or subset of candidate paths, from the outputs of the M correlators.”***

Applicants respectfully disagree with this assertion. First, *He* does not disclose, nor can it be inferred from *He*, that the finger manager comprises correlators. In contrast, the passage in *He* cited by the Office Action states that “searcher outputs 408 may include, two of an array of eight correlation energies at their associated pn-offsets, as determined by a preselected energy output threshold in searcher 407”(emphasis added). (*He*, column 5, lines 51-54.) Hence, correlation in *He* is performed within the searcher. *He* discloses that the searcher forwards the results of correlation, *i.e.*, the correlation energies at their associated pn-offsets, to a finger assignment algorithm in the finger manager. (See *He*, column 5, lines 54-55.) Hence, contrary to the allegations of inherency by the Office Action, *He* does not appear to teach or suggest that further correlation is performed by the finger manager.

Generally, in order for a thing, A, to inherently comprise a certain result or characteristic, B, it is required that A necessarily comprise B. MPEP § 2112 is clear on this: “in relying on the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.” In other words, inherency requires that the characteristic or function must be present, and a conclusion of inherency must be based in fact, not mere speculation. It is respectfully submitted that the Office Action fails to provide a reasonable basis that the finger manager inherently comprises correlators because there is nothing in *He* that suggests a finger manager comprising correlators. Indeed, *He* appears to teach away from a finger manager comprising correlators since *He* only appears to disclose that computed correlation results originating from a searcher are forwarded to a finger assignment algorithm in the finger manager.



Dependent claim 11 further defines that the apparatus comprises a quality signal and that the first stage is configured to generate a new set of more than N paths when the quality signal is less than a threshold value.

The Office Action, citing column 5, lines 51-54 of *He*, alleges that since the searcher outputs the strongest received multipath signals, as determined by a preselected output threshold, there is a quality signal alerting the searcher when new sets of multipath signals must be output, as determined by the output threshold. It is not clear from the foregoing explanation which signal the Office Action is identifying in *He* as the claimed quality signal. The Office Action appears to allege that a multipath signal is output from the searcher. However, this is incorrect because the outputs of *He's* searcher are calculated correlation energy values and associated pn-offsets of multipath signals. (See *He* at column 5, lines 39-50.) Moreover, claim 11 defines a threshold value as well as a quality signal, but clearly the "output threshold" identified by the Office Action cannot be both the claimed threshold value and the quality signal. Hence, Applicants respectfully submit that *He* fails to show the features recited in claim 11.

Independent claims 14 and 19 are directed to apparatuses for configuring a RAKE receiver that include an input signal, a searcher configured to use the input signal to find a set of candidate paths, and a selector. Claim 14 further requires that the selector be configured to use the input signal and the set of candidate paths to select a subset of candidate paths that are used to configure the RAKE receiver. Claim 19 defines a selector that is configured to use the input signal and the set of candidate paths to select a smaller set of candidate paths. Thus, both claims 14 and 19 are similar to claim 1 in that they require that a selector use the input signal and the set of candidate paths to select another set of candidate paths from the set of candidate paths.

As pointed out above, *He* does not appear to disclose or suggest that the finger manager uses the input signal to generate a subset or smaller set of paths from the outputs (408) of the searcher (407). Applicants respectfully submit that *He* at least fails to identically disclose a "selector configured to use the input signal," as recited in both of

claims 14 and 19. Applicants also submit that this feature is nonobvious over *He* at least for the same reasons discussed above.

Dependent claims 15-18 and 20-21 are distinguished over *He* for at least the same reasons as claims 14 and 19, respectively, and for the additional novel features they recite. For example, claim 15 recites that the selector comprises M correlators, which is similar to the subject matter recited in claim 2. For the reasons discussed above with respect to claim 2, it is respectfully submitted that *He* fails to teach or suggest these features.

Claim 22, as amended, recites that a second set of paths is selected from a first set of paths base on a second set of correlation values. Applicants respectfully submit that *He* fails to teach or suggest this feature because *He* finger manager does not generate correlation values. Claims 23-24 are believed to distinguish over *He* at least for the same reason as claim 22, and also for the additional features they recite.

Accordingly, Applicants respectfully submit that *He* fails to anticipate any of the pending claims, and therefore respectfully requests withdrawal of all rejections under § 102 thereof.

**The Rejections under 35 U.S.C. § 103(a)**

Claims 13, 23, and 25 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *He*.

With respect to claim 13, Applicants agree with the statement by the Office Action that *He* does not disclose the use of a counter with the first stage. In addition, as discussed above with respect to claim 1, *He* also fails to teach a novel combination including a second stage that uses the input signal to generate a set of N paths. Applicants respectfully submit that it would not have been obvious from *He* to use a counter to alert the first stage after a certain amount of time has elapsed that the paths being selected are to be updated, due to the dynamic of the incoming signals. First, *He* does not discuss any details relating to a searcher that generates a new set of more than N paths. Furthermore, *He* fails to mention or suggest using a counter in conjunction with a searcher. Still further, the Office Action fails to provide any evidence teaching this claimed feature. In view of this, it is respectfully submitted that the motivation for obviousness set forth in the Office Action

could only be arrived at by the impermissible use of Applicants' own disclosure to arrive at this conclusion. Moreover, the Office Action fails to present a *prima facie* case of obviousness with respect to claim 13 because each element of the claims are not taught or suggested by the document applied.

At least for these reasons, Applicants respectfully submit that the rejection of claim 13 under 35 U.S.C. § 103(a) is improper at least because it is based on a reference that fails to teach each and every feature of the claim. In addition, the rejection also is believed improper because the motivation for altering the device of the applied document is not based on evidence supporting the alleged obviousness of claimed features. Accordingly, Applicants request that the rejection be withdrawn.

As to claims 23 and 25, claim 23 defines a method for configuring a RAKE receiver that comprises the step of updating the second set of paths without updating the first set of paths. Claim 25 further defines that the method also includes the step of updating the second set of paths while updating the first set of paths. In the Office Action, it is stated that "*He* does not expressly disclose the ability of the receiver to generate the second set of paths without updating the first set of paths and while updating the first set of paths." Applicants agree with this statement. However, Applicants also submit that claims 23 and 25 depend from amended independent claim 22, and as discussed above, *He* does not teach every feature of independent claim 22. Hence, Applicants submit that for at least these reasons, claims 23-25 are patentably distinguished over *He*.

Furthermore, the Office Action's unsupported conclusory statement: "it would be obvious to one of ordinary skill in the art to allow the second stage to generate a new set of paths while the first stage is inactive so power usually consumed while updating the first set of paths may be conserved" cannot, by itself, establish a *prima facie* case of obviousness. Applicants respectfully submit that it is improper for the Office to use the teachings of Applicants' disclosure in formulating a *prima facie* case of obviousness. "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art." MPEP § 2143. Applicants respectfully submit that the Office Action has failed to fulfill its burden in establishing a *prima facie* case of

obviousness because the Office fails to provide evidence, based in the prior art, that the method as further defined in claim 23 would have been obvious at the time the invention was made.

With respect to claim 25, the Office Action again relies on inherency. However, claim 25 depends from claim 23 and is believed allowable at least for the reasons given above with respect to claims 22 and 23. Furthermore, the basis for inherency given in the Office Action is not based in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of *He*. See the discussion of inherency, above. At least for the foregoing reasons, Applicants respectfully assert that the rejections of claims 23 and 25 under 35 U.S.C. § 103(a) are improper and should be withdrawn.

Claims 3, 4, 8-10, 16-18, 20 and 21 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *He* in view of *Tran* (U.S. Patent No. 6,269,075).

In rejecting claims 3, 4, 20 and 21, the Office Action, at the end of page 8, admits that *He* fails to disclose use of 3\*M or k\*M correlators in a finger manager. The Office Action instead relies on *Tran* for allegedly teaching the use of 3\*M and thus also k\*M correlators that produce multiple measurements of each of M candidate paths. The Office Action then alleges that it would have been obvious to use the 3\*M or k\*M correlators in the finger manager of *He* so that the finger assignment can be improved by reducing timing misalignment.

Applicants respectfully submit that *Tran* fails to make up for the deficiencies of *He*. In *Tran*, correlation is measured in the searcher (*i.e.*, the searcher unit 18 of *Tran*) to produce multipath measurements of correlation peaks and associated offsets of the input signal (*i.e.*, filtered RF inputs 38 and 40 of *Tran*) with ½ chip resolution. The searcher forwards to a control unit (*i.e.*, the control unit 20 of *Tran*) these multipath measurements taken at ½ chip increments. The control unit receives these measurements and identifies the best candidate multipaths of the RF signal to demodulate. When best candidate paths are determined, the control unit derives timing offsets for the best candidate paths as a function of the measurements for those paths and measurements adjacent thereto (*e.g.*,

measurements  $M(0)$ , and adjacent measurements  $M(-1)$  and  $M(1)$ ). (See *Tran*, column 7, line 66-column 9, line 57.)

In contrast to the claimed invention, the control unit of *Tran* is not configured to use the input signal to generate or select a set of paths. In fact, the control unit of *Tran* is similar to the finger manager of *He* in that measured characteristics of the input signal are used to determine finger assignment of offset locations. Thus, for at least these reasons, *Tran*, whether taken alone or in any combination with *He*, fails to teach or suggest the invention claimed in claims 1, 14 and 19.

Dependent claims 3, 4, 8-10, 16-18, 20 and 21 are believed to distinguish over both *He* and *Tran* at least for the same reasons given above with respect to claims 1, 14 and 19, and furthermore for the additional features they recite.

For example, claims 3, 4, 20 and 21 recite a second stage/selector that comprises  $3 \times M$  or  $k \times M$  correlators and is configured to use these correlators to generate  $M$  estimates. In contrast, *Tran* appears to disclose a matched filter that uses the input signal prior to the control unit. *Tran* does not appear to mention or suggest using multiple correlators to generate or select a subset of paths from a set of paths output from a first stage. Applicants also disagree with the conclusion reached by the Office Action that because *Tran* teaches that three timing offsets are associated with a candidate path that "there are 3 correlators for each path." In contrast, the searcher in *Tran* appears to perform  $\frac{1}{2}$  chip sequential incremental delays to produce the measurements.

As to claims 10 and 18, Applicants disagree with the statement made in the Office Action that the features recited in these claims are inherent to either *He* or *Tran*. Claims 10 and 18 respectively recite features that are similar to claim 24. As with claim 24, the Office Action appears to allege that the features of claims 10 and 18 are inherent to the disclosed receiver of *Tran*. Once again, the Office Action's allegation of inherency is flawed because it lacks a reasonable foundation, based in fact and/or technical reasoning, that *Tran*'s receiver necessarily possesses the claimed features.

Claims 9 and 17 recite features similar to those of claim 23. Applicants agree with the statement made in the Office Action that neither *He* or *Tran* disclose the features recited

in these claims. However, the Office Action rejected claims 9 and 17 using reasoning similar to statements made above with respect to claim 23. In particular, the Office Action alleges that with respect to claims 9 and 17 that it would have been obvious in the RAKE receiver of *He* comprising the matched filter described by *Tran* "to allow the second stage to generate a new set of paths while the first stage is inactive so power usually consumed by the matched filter may be conserved." Applicants reiterate that the Office cannot establish a *prima facie* case of obviousness by impermissibly using the teachings of Applicants' disclosure. Applicants respectfully submit that the Office Action has failed to meet its burden in establishing a *prima facie* case of obviousness with respect to claims 9 and 17 because the Office fails to provide both evidence in the prior art that the features recited in these claims were known at the time of Applicants' invention and motivation for combining these features to arrive at the invention.

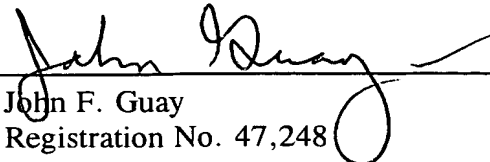
Based on the forgoing, Applicants respectfully submit that neither *He* nor *Tran*, whether taken alone or in any combination, teach or suggest the claimed invention. Accordingly Applicants respectfully request that the rejections of claims 1-4 and 8-25 under either of 35 U.S.C. § 102 and 35 U.S.C. § 103 be withdrawn.

#### Conclusion

For at least the foregoing reasons, Applicants respectfully submit that the present patent application is in condition for allowance. An early indication of the allowability of the present patent application is therefore respectfully solicited. If the Examiner believes that a telephone conference with the undersigned would expedite passage of the present patent application to issue, he is invited to call the number below.

Respectfully submitted,

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**Attachment to Amendment dated February 7, 2002 Showing Changes**  
(Brackets show deletions and underlining shows additions)

**IN THE SPECIFICATION:**

The specification has been amended as follows:

On page 2, the first paragraph has been amended as follows:

A receiver 50 has a receiving antenna 59 for receiving signal 40. Receiver 50 uses a carrier signal 58 to demodulate signal 40 and to obtain composite signal [58] 57.

Composite signal 57 is multiplied by a synchronized long code or chip sequence 55. Long code 55 is a locally generated complex conjugated replica of long code 35.

On page 4, the first paragraph has been amended as follows:

Similarly, input signal 112 can be correlated in finger 322 with a chip sequence 323 that has a phase corresponding to  $T_{10}$ ; in finger 330 with a chip sequence 331 that has a phase corresponding to  $T_5$ ; and in finger [322] 332 with chip sequence(s) having a phase corresponding to  $T_{15}$ . The finger outputs are multiplied by individual weights 340, 342, 350, and 352 to maximize the received signal-to-noise-and-interference ratio. The weighted outputs are then added by an accumulator 362. The output of the accumulator 362 is fed to a threshold device 364, or to a quantizer that outputs soft information.

On page 8, the second paragraph has been amended as follows:

FIG. 5 is another schematic drawing of a RAKE receiver and a second stage that selects or generates a second set of paths. An antenna 108 and a RF receiver 110 provide digital samples 112 to fingers 320, 322, 330, and 332. Antenna 108 and RF receiver 110 also provide digital samples to a searcher 101, a selector 201, and a control processor 600. The control processor 600 can instruct searcher 101 via path 601 to use digital samples 112 to find a set of candidate paths 180.

On page 8, the third paragraph (spanning pages 8 to 9) has been amended as follows:

The selector 201 uses the set of candidate paths 180 to select a smaller set or a subset of paths 280. If, for example, the RAKE receiver has four fingers, the second set of paths 280 contains four paths: 280a, 280b, 280c, and 280d. The first path 280a is used to configure finger 332; the second path 280b is used to configure finger 330; the third path 280c is used to configure finger 322; and the fourth path 280d is used to configure finger 320. The selector 201 uses digital samples 112 and the first set of candidate paths 180 to select new paths. The diversity combiner and decoder 350 use the outputs of the four fingers to recreate an estimate of the transmitted signal. The control processor 600 monitors the quality of the estimate via path 603 and uses this information to control the searcher 101 and the selector 201 via paths 601 and 602.

**IN THE CLAIMS:**

Claims 1-4, 7, 11, 13 and 22 have been amended as follows:

1. (Amended) An apparatus for configuring a RAKE receiver with N fingers, the apparatus comprising:

a first stage, the first stage configured to use an input signal to find a set of more than N paths;

a second stage, the second stage configured to use the first set of more than N paths and the input signal to generate a set of N paths; and

a third stage, the third stage configured to use the set of N paths to configure the N fingers of the RAKE receiver.

2. (Amended) An apparatus as described in claim 1, the first stage configured to [us] use an input signal to find a set of M paths, the second stage comprising M correlators, the second stage configured to use the outputs of the M correlators to generate the set of N paths.

3. (Amended) An apparatus as described in claim 1, the first stage [configures] configured to use an input signal to find a set of M paths, the second stage comprising 3\*M correlators, the second stage configured to use the 3\*M correlators to generate M estimates.



4. (Amended) An apparatus as described in claim 3, the second stage configured to use the M estimates to generate [the] a second set of paths.

7. (Amended) An apparatus as described in claim 5, the second stage configured to derive the new [N] set of N paths from the first set of more than N paths.

11. An apparatus as described in claim 1, the apparatus further comprising a quality signal, the first stage configured to generate a new [first] set of [candidate] more than N paths when the quality signal is less than a threshold value.

13. (Amended) An apparatus as described in claim 1, the apparatus further comprising a counter, the first stage configured to generate a new set of more than N paths when the [quality signal] value of the counter is greater than a pre-set value.

22. (Amended) A method for configuring a RAKE receiver, the method comprising the steps of:

finding a first set of paths;

searching the first set of paths to generate a first set of correlation values; and

selecting a second set of paths from the first set of paths based on [the] a second set of correlation values.